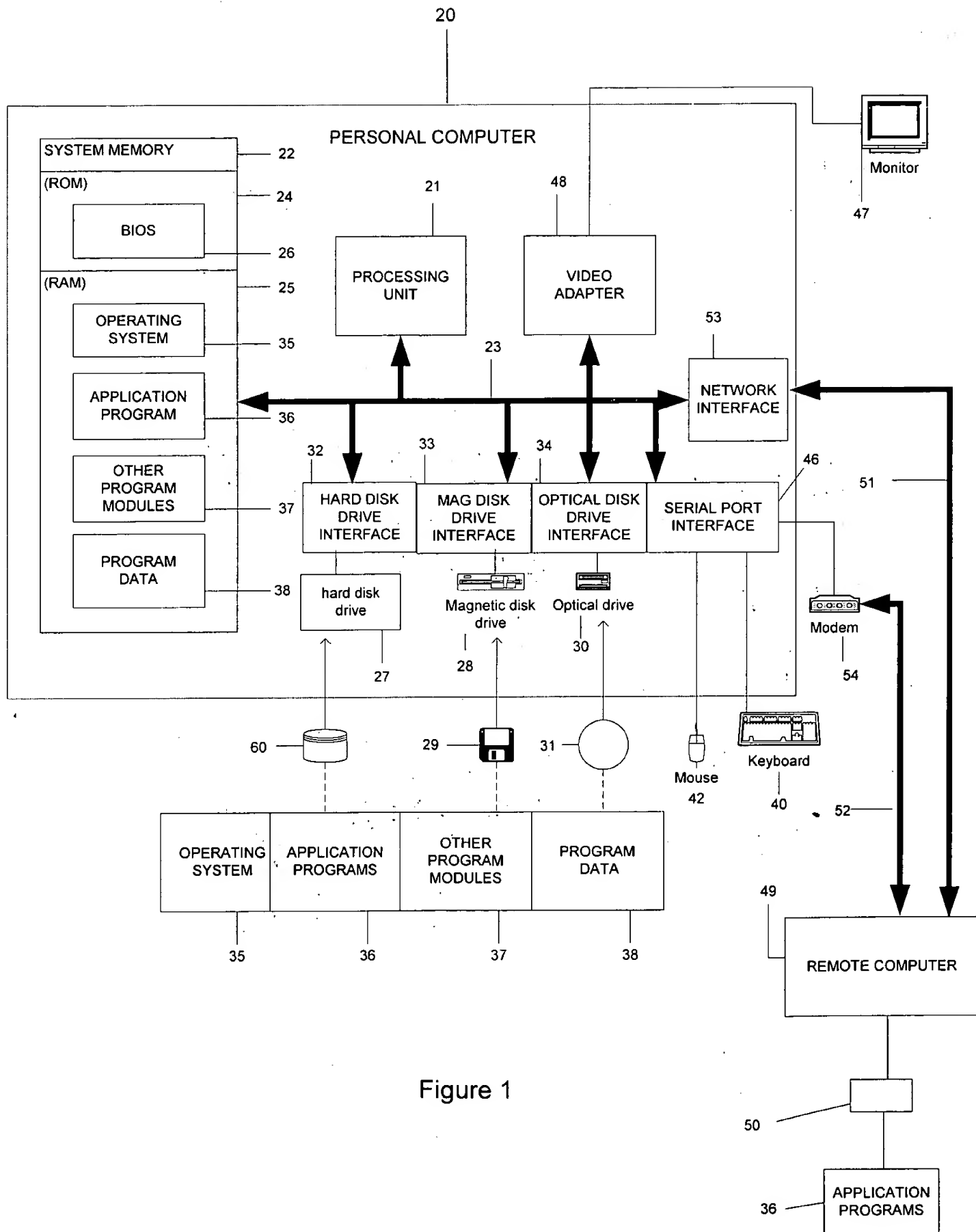


00000"0605E560



[illegible]

82



69



80



?

(Prior Art)

```
class B: public A
...
(identifying B as possible
replacement for A)
...
(instructing to replace A with B)
...
(using functions in reusable
module to create objects of B
instead objects of A)
...
(instructing to end replacement)
...
```

```
class A
...
(identifying class A as
replaceable)
...
(code creating instances of
class A)
...
```

COMPILER

...
(Information for creating an object of class A)
...
(code instructing to create an object of class A) →

```

...
(Information for Creating an
object of Class B)
...
(instruction to replace A with B)
...
(code using the reusable module)
...
(Indication of end of replacement)
...

```

FIG. 3

Source Code for Reusable Module 104

```

// class.hxx
...
class B1
{...
}
class B2
{...
  virtual B2(int y)
...}

//classes.cxx
#include classes.hxx
...
constructor B1::B1(int x)
...
constructor B2::B2(int y)
...

//functions.cxx
#include classes.hxx
...
SomeFunction (...)
{...
  pB2=new B2();
...}

```

New Program Source Code 101

```

//newclass.hxx
#include classes.hxx
class C: public B1, public B2
{...
  virtual B2(int y)
  virtual C(int x,int y, int z)
  ...}

//newclass.cxx
#include newclass.hxx
constructor C::B2(int y)
{...}
constructor C::C(int x, int y, int z)
{...}

//main.cxx
#include newclass.hxx
main()
{
  CLSREF clsrefOld=classref(B2,B2);
  CLSREF clsrefNew=classref(C,B2);
  replace_class(clsrefOld, clsrefNew);
  ...
  SomeFunction();
  ...
  replace_class(Null,B2);
  ...}

```

Compilation and Linking Process:

- COMPILER** (106) processes the source code to generate object files: `classes.obj`, `functions.obj`, `newclass.obj`, and `main.obj`.
- LINKER** (107) links the object files and the **Module Library** to produce the final **program.exe** (112).

FIG. 4

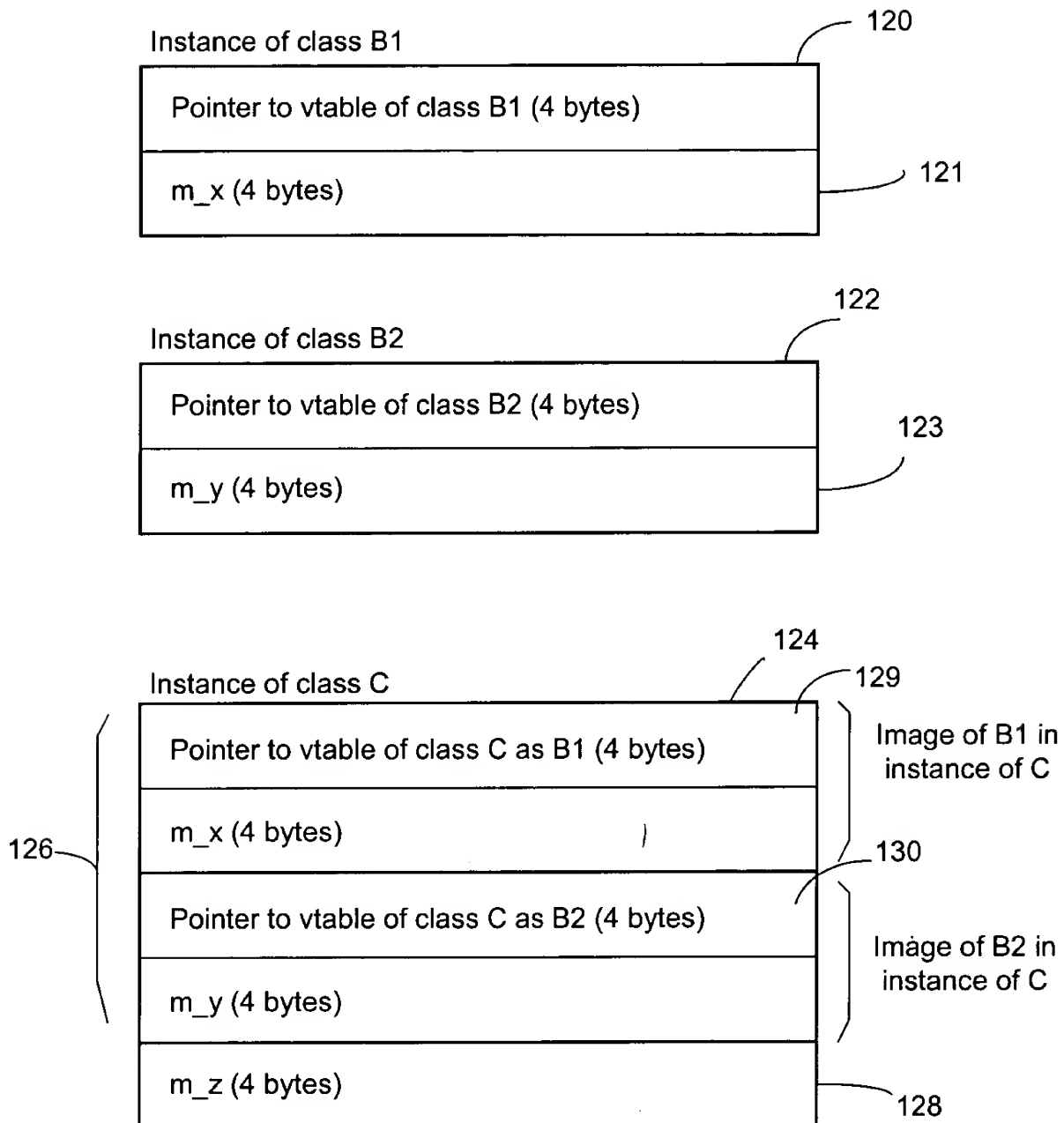


FIG. 5

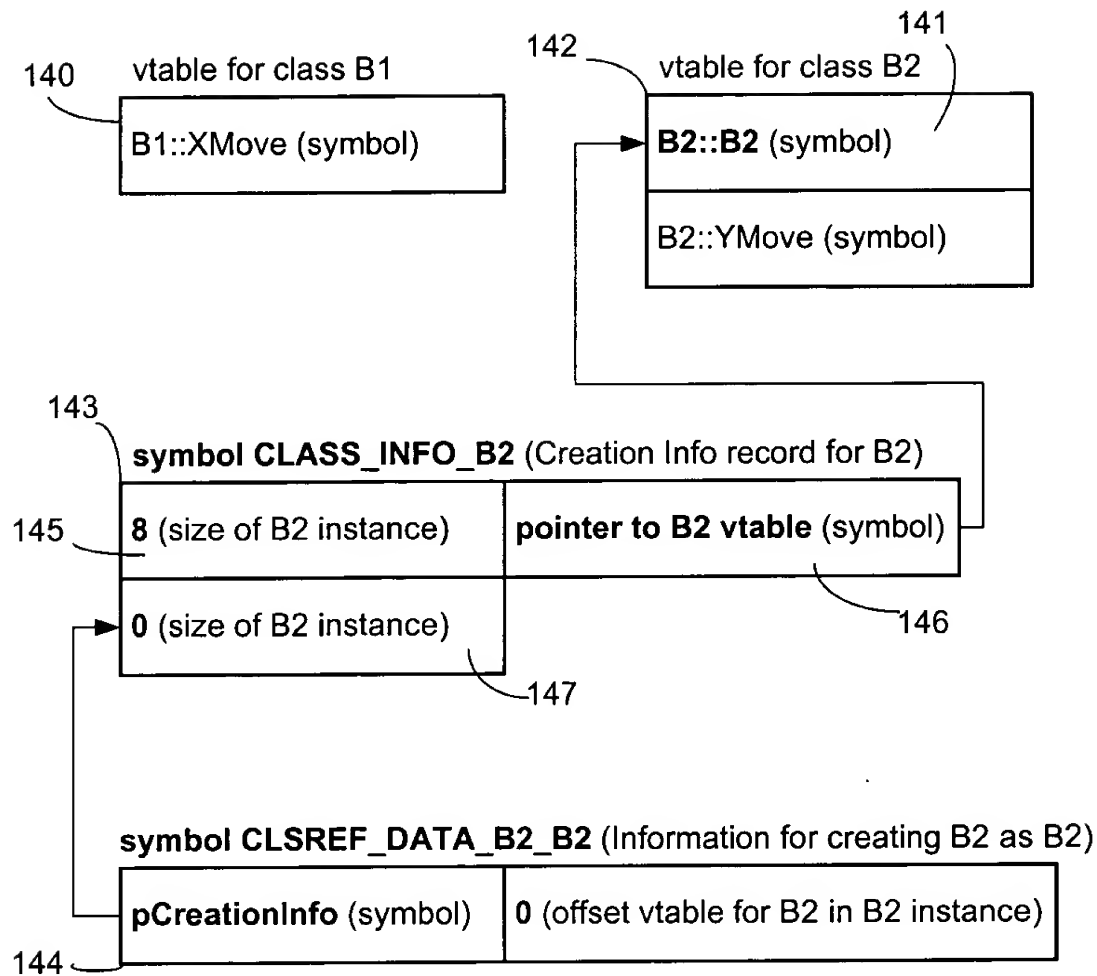


FIG. 6

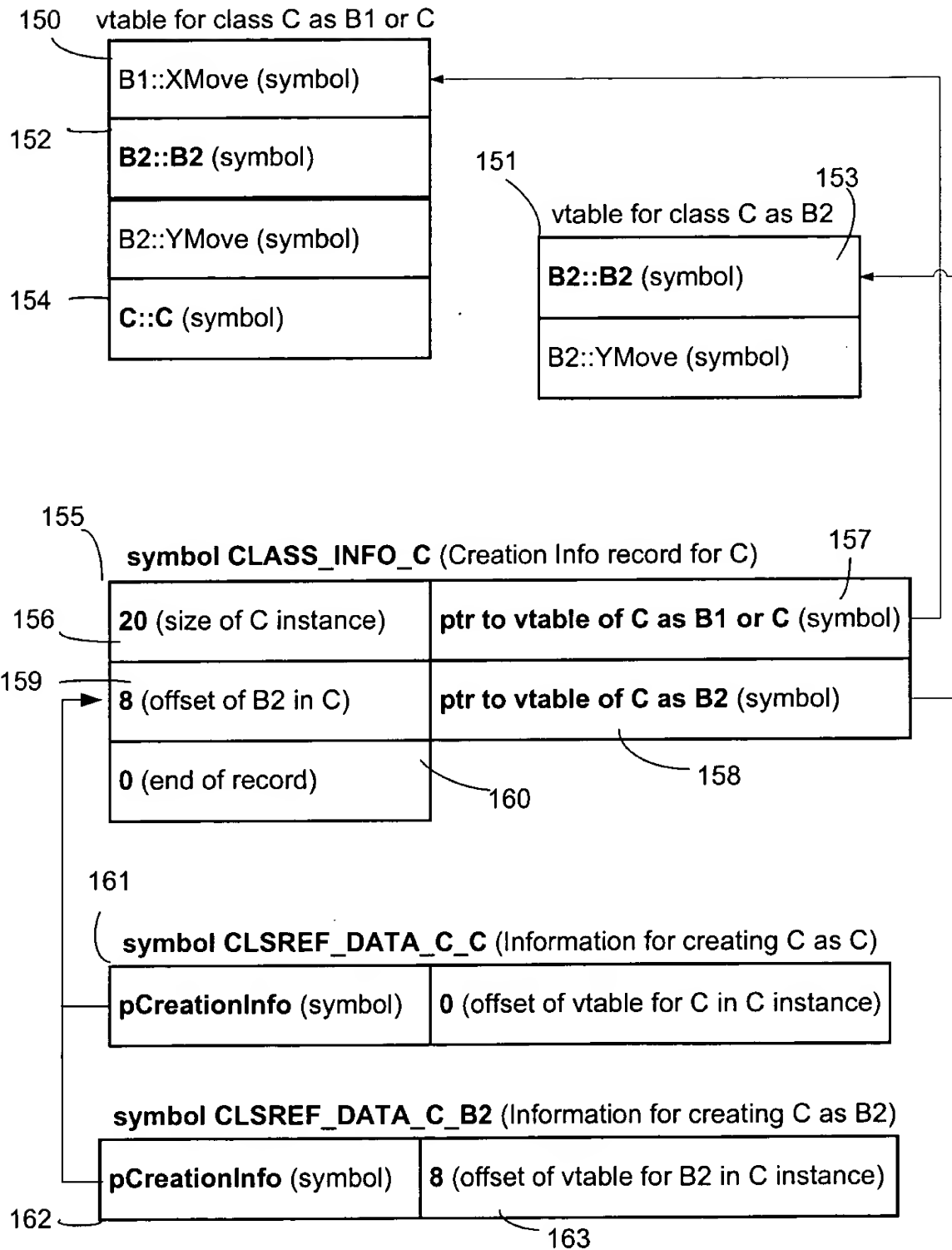


FIG. 7

Dynamic Memory For Thread 1

Class Replacement List	
clsrefClass	clsrefReplacement
&CLSREF_B2_B2	&CLSREF_C_B2
...	...
...	...

.....

166

167

Dynamic Memory For Thread 2

Class Replacement List	
clsrefClass	clsrefReplacement
&CLSREF_X_X	&CLSREF_Y_X
...	...
...	...

.....

.....

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·
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FIG. 8